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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/679,824	10/06/2003	Robin Rickard	920476-94915	3707
23644 7590 03/12/2009 BARNES & THORNBURG LLP P.O. BOX 2786 CHICAGO, IL 60690-2786				
EXAMINER				
LIU, LI				
ART UNIT		PAPER NUMBER		
2613				
NOTIFICATION DATE		DELIVERY MODE		
03/12/2009		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

Patent-ch@btlaw.com

**Advisory Action
Before the Filing of an Appeal Brief**

Application No.

10/679,824

Applicant(s)

RICKARD ET AL.

Examiner

LI LIU

Art Unit

2613

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 12 February 2009 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☒ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:

- a) ☒ The period for reply expires 3 months from the mailing date of the final rejection.
b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.
Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

NOTICE OF APPEAL

2. ☐ The Notice of Appeal was filed on _____. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

AMENDMENTS

3. ☐ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because
(a) ☐ They raise new issues that would require further consideration and/or search (see NOTE below);
(b) ☐ They raise the issue of new matter (see NOTE below);
(c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
(d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: _____. (See 37 CFR 1.116 and 41.33(a)).

4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).
5. ☐ Applicant's reply has overcome the following rejection(s): _____.
6. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
7. ☒ For purposes of appeal, the proposed amendment(s): a) ☒ will not be entered, or b) ☐ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.
The status of the claim(s) is (or will be) as follows:
Claim(s) allowed: _____.
Claim(s) objected to: _____.
Claim(s) rejected: 1-12, 16, 20-30, 32 and 34.
Claim(s) withdrawn from consideration: 13-15, 17-19, 33 and 35-59.

AFFIDAVIT OR OTHER EVIDENCE

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).
9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing a good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).
10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

REQUEST FOR RECONSIDERATION/OTHER

11. ☒ The request for reconsideration has been considered but does NOT place the application in condition for allowance because:
See Continuation Sheet.
12. ☐ Note the attached Information Disclosure Statement(s). (PTO/SB/08) Paper No(s). _____.
13. ☐ Other: _____.

/Kenneth N Vanderpuye/
Supervisory Patent Examiner, Art Unit 2613

Continuation of 11, does NOT place the application in condition for allowance because:

Applicant's arguments filed on 2/12/2009 have been fully considered but they are not persuasive, and do not place the application in condition for allowance.

1). Applicant's argument – "Any anticipation, by Smart et al., of a method or apparatus for transmitting or receiving an OFDM modulated signal over an optical channel is purely accidental, It is clear therefore, that what Smart et al. propose is a modulated signal which can be transmitted over any one of these media - including twisted pair cable; coaxial cable; or an RF propagation path, as well as optical fiber." "Smart et al. did not realize (or teach) that it is possible to achieve a significant increase in the bandwidth of an optical fiber through the use of OFDM modulation. The present inventors are concerned with the very different problem of increasing the bandwidth of optical fiber, and have recognized that, through the use of OFDM, it is possible and practical to transmit data at rates far higher than previously achievable - for example 10Gbps, as discussed at p.21, line 9, of the present application as filed. Such rates are several orders of magnitude higher than could ever have been contemplated by Smart et al, since wired and RF links could not have accommodated such bandwidth".

Examiner's response – First, what is implied, suggested or explicitly disclosed in a reference can be used to read on the claims, and not the intention behind the invention. Regarding to applicant's argument that the claimed invention is used for "increasing the bandwidth of optical fiber", a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. As admitted by the applicant, Smart et al clearly teaches or suggests that the modulated signal can be transmitted over an optical fiber or an optical propagation path. And Smart et al also discloses that using the OFDM provides greater use of the available frequency bandwidth ([0081]).

Second, in response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., "bandwidth", "optical fiber", "data rate" that is several orders of magnitude higher than previously achievable) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). The applicant claims an apparatus comprising a digital signal processor with Fourier transform, a modulator that utilizes polarization multiplexing, and an optical output. But, the claims never mention that the transmission medium is the "optical fiber", and the claims do not recite the bandwidth of the optical fiber and the data rate transmitted.

2). Applicant's argument – "even if non-analogous prior art such as this were consulted, it could not and does not, by itself, teach that an increase in optical bandwidth is available - to recognize this requires a further inventive insight, such as that had by the present inventors". "The skilled person has no motivation to consult Smart in the first instance, let alone combine it with other references - particularly since those references (including Shpantzer '435 and Shpantzer NPL) relate to a system for optical wavelength division multiplexing. Such a combination is arbitrary, and can only be arrived at with the benefit of hindsight, in the knowledge of the present invention".

Examiner's response – In response to applicant's argument that Smart is nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, as discussed above, Smart et al clearly teaches or suggests that the modulated signal can be transmitted over an optical fiber or an optical propagation path, and the using of the OFDM provides greater use of the available frequency bandwidth. Therefore, it is not a "nonanalogous art".

In response to applicant's argument that the examiner's conclusion of obviousness is based upon hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Smart et al teaches the OFDM provides greater use of the available frequency bandwidth, and optical fiber can be used as the medium, and Shpantzer NPL teaches that by using the polarization multiplexing the system capacity can be doubled. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Shpantzer with Smart so to increase the system capacity.

3). Applicant's argument – "at least the feature of polarization multiplexing, recited in each of the independent claims, is novel. Applicants note that this feature contributes to the extremely high data rates achievable by embodiments of the present invention. The fact that this multiplexing feature is known in the context of a very different optical communication system does not mean that it can be selectively combined with teachings from a reference (Smart et al.) in a different field, and which are only accidentally relevant to the present invention".

Examiner's response – Again, as discussed above, Smart et al clearly teaches or suggests that the modulated signal can be transmitted over an optical fiber or an optical propagation path, and the using of the OFDM provides greater use of the available frequency bandwidth. Therefore, reference Smart is not "in a different field". And the claims of the instant application do not recite what "the extremely high data rates" are. And the combination of Smart and Shpantzer '435 and Shpantzer NPL reads on the claims.

4). Applicant's argument – "Similar arguments to those made above apply to Dolgonos et al." "Therefore, any anticipation by Dolgonos et al. of an optical communications system using OFDM is entirely accidental - in the sense that Dolgonos et al. did not teach that such a system could be employed to achieve a massive increase in the data rates achievable over optical fiber. For this reason, Dolgonos et al. would not be consulted by a skilled optical communications engineer - trying to improve optical transmission speeds. For this reason also,

Dolgonos et al. would not be combined by such a skilled person with references in the optical communications field".

Examiner's response – Similarly as discussed above, what is implied, suggested or explicitly disclosed in a reference can be used to read on the claims, and not the intention behind the invention. In response to applicant's argument that the claimed invention is used "to achieve a massive increase in the data rates achievable over optical fiber", a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

The claims 22-30 and 32 of the instant application recite an optical receiver comprising an O/E converter receiving the polarization diverse optical sub-carrier multiplexed signal, a digital signal processor and Fourier transform. And the features upon which applicant relies (i.e., "optical fiber", "data rate" that is massively increased) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).